

FIG. 1

Side by Side Display

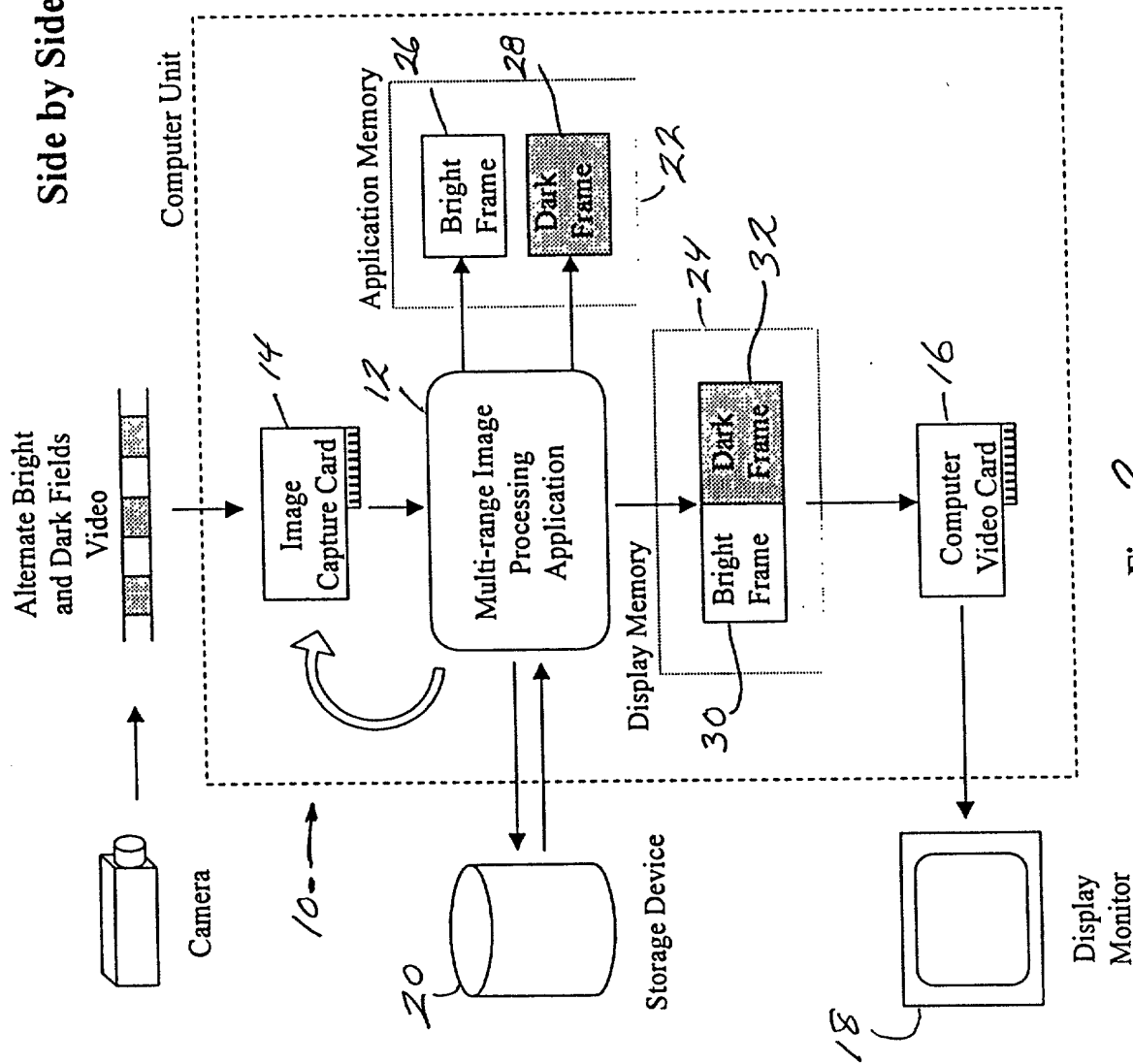
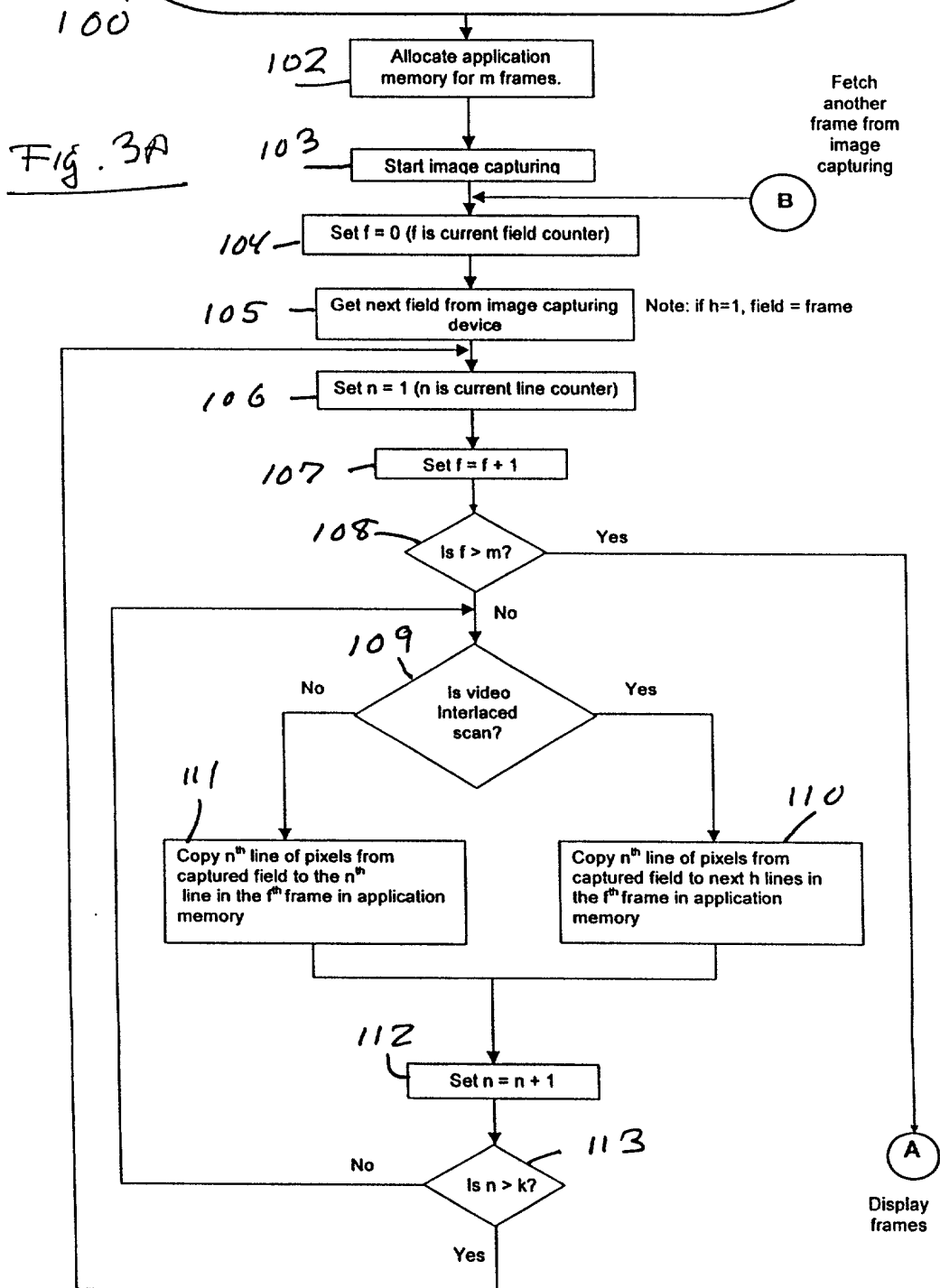


Fig. 2

Process images from capturing device

Let m = number of variation of images exposed differently
 Let h = field to frame ratio when a field captures one of the images
 Note: field means one interlace scanned image
 frame means fully scanned image
 Let k = number of lines of pixels in 1 field
 Get values of m and k from video capturing device, for example:
 Set $m = 2$ (1=bright, 2=dark) Set $k = 240$ (Interlaced NTSC)



A Display frames

Let p = number of pixels in each line of a frame.
Allocate display memory buffer to accommodate a display area of $k \cdot h$ lines of pixels and $p \cdot m$ pixels on each line.
Each line of pixels in display memory has m positions, with 1st position being the left most group of p pixels, 2nd position being the next group of p pixels, and the m^{th} position occupying the right most group of p pixels.

A
Display
reconstructed
frames

115 Set $i = 1$ (i is current line counter)

116 Set $j = 1$ (j is current position counter)

117 Copy i^{th} line from j^{th} frame in application memory to j^{th} position of the i^{th} line in display memory

118 Set $j = j + 1$

119 Is $j > m$? No

Yes
120 Set $i = i + 1$

121 Is $i > k \cdot h$? No

Yes
122 Display current display memory buffer to show the side-by-side view of the m number of frames

Fetch another frame from image capturing device

B

124 Fetch another frame from storage device

Input source?

Storage

D

ON

123 Recording Mode?

OFF

C

Write to storage

Fig. 3B

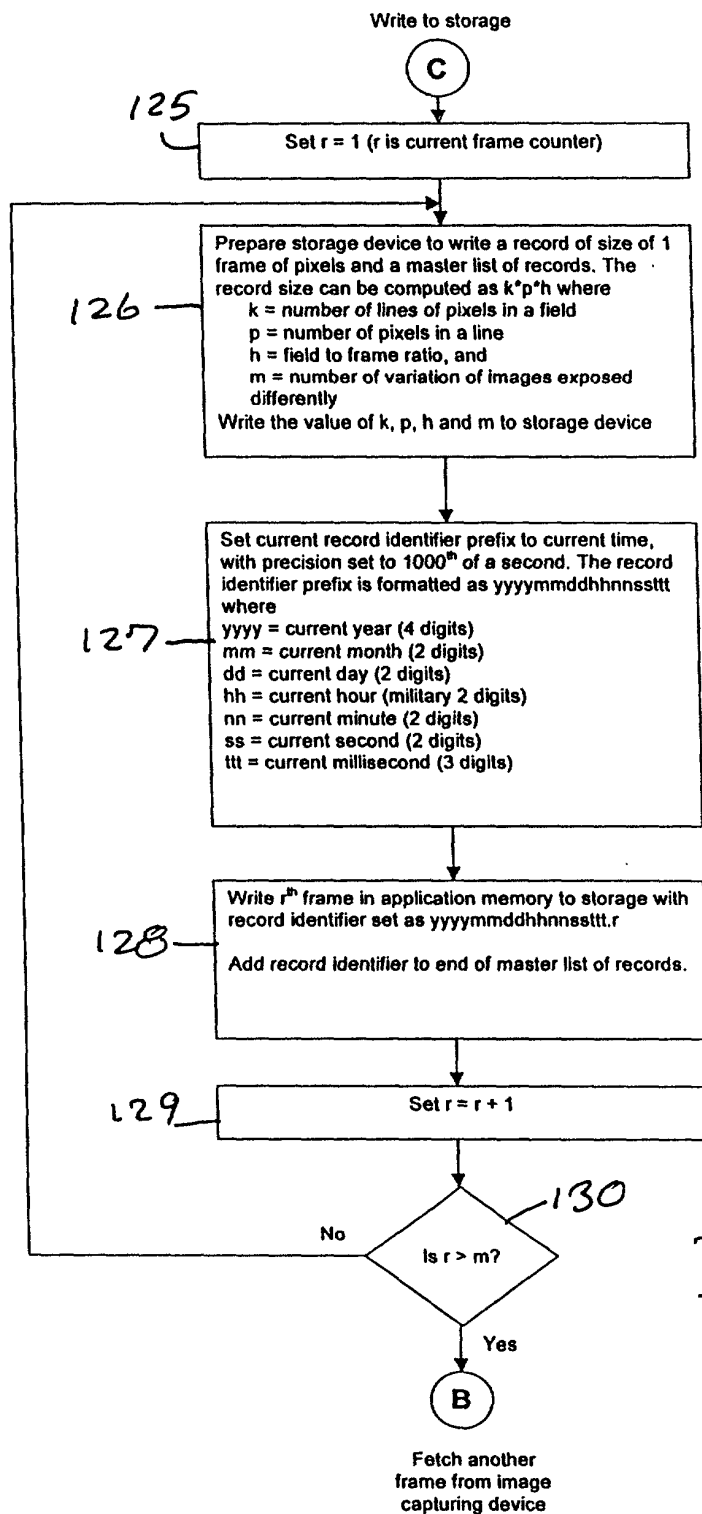
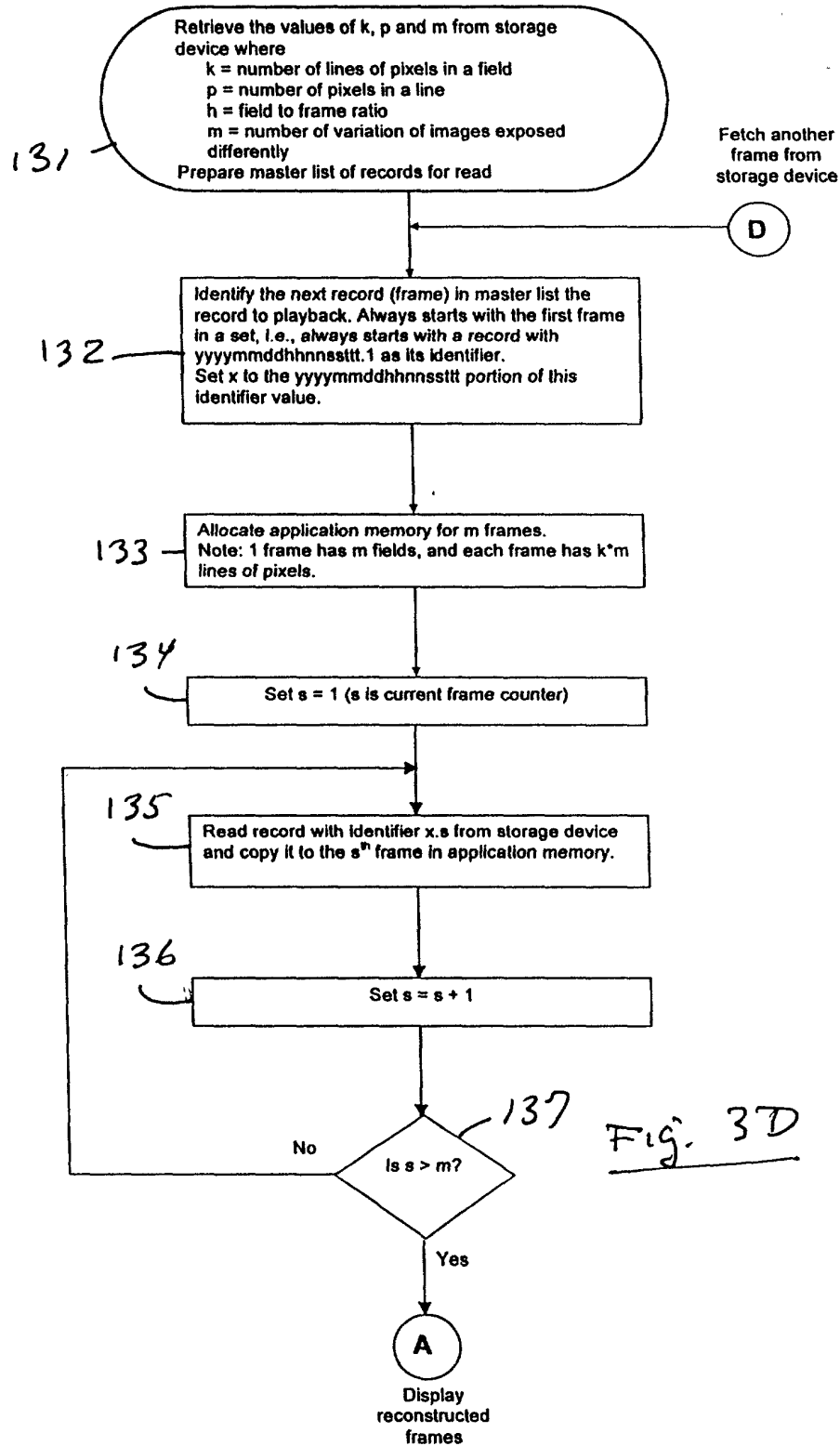


Fig. 3C

Retrieve images from storage device



Composite Image Display

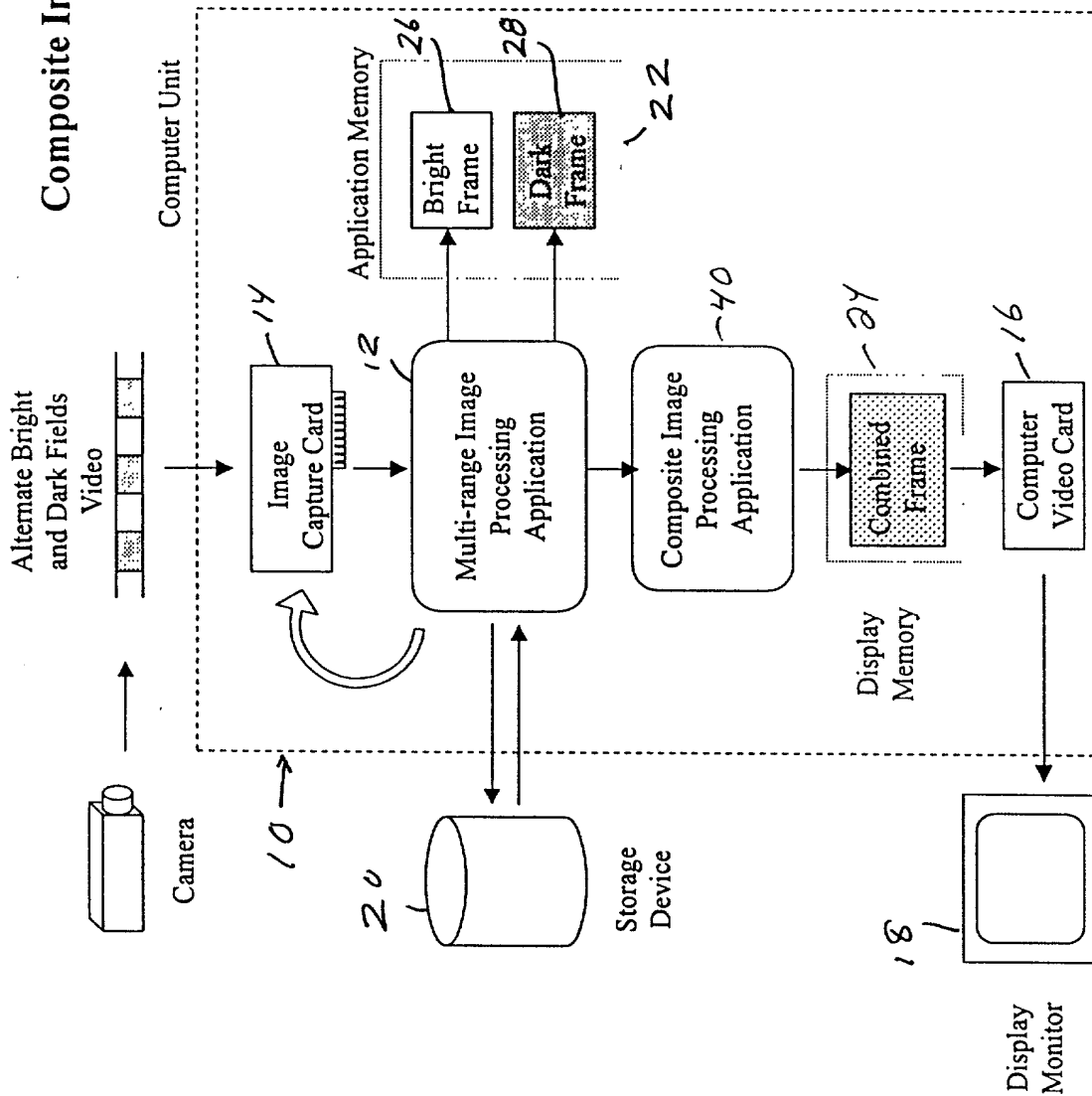


Fig. 4

Selected Image Display

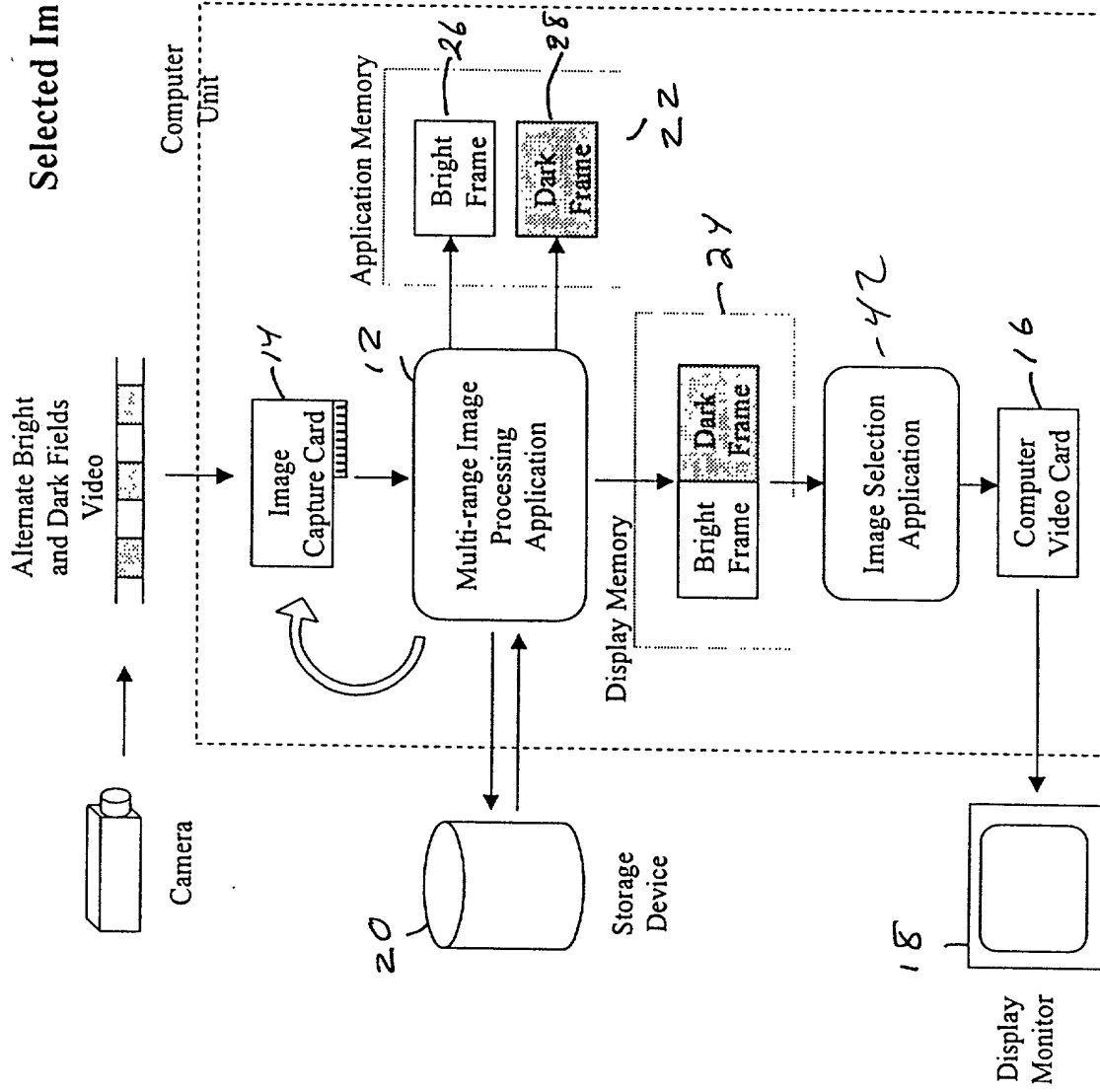


Fig. 5

Selected Image Display

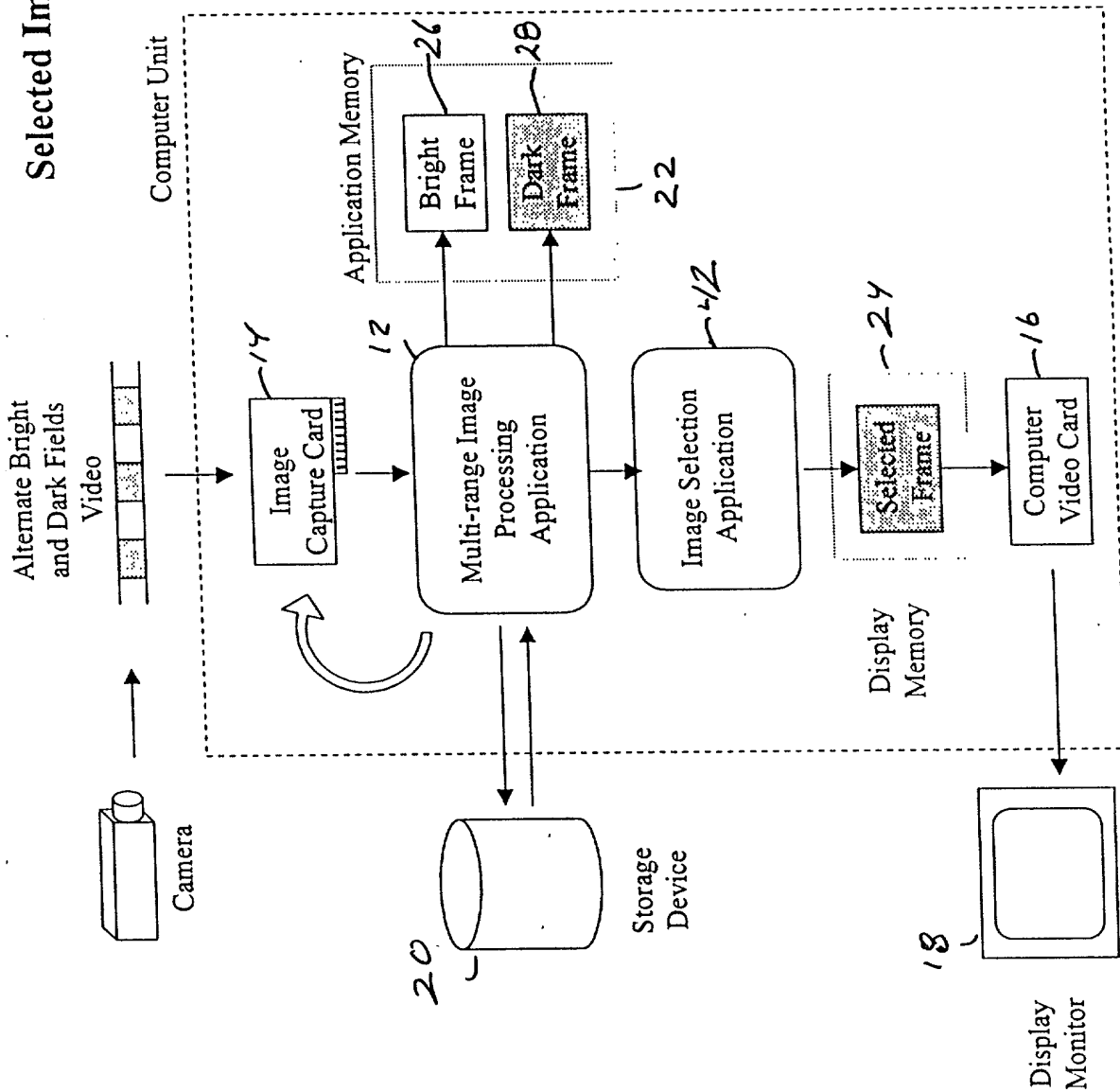


Fig. 6